

CLAIMS

1. A coating composition for an implantable medical device comprising a combination of a bioactive and a vehicle therefor, wherein the vehicle comprises a first compound
5 which is a random copolymer of Formula 1:



10 wherein A is a vinyl acetal group; B is a vinyl alcohol group and C is a vinyl acetate group
and wherein $x+y+z=1$.

2. A composition as claimed in claim 1, wherein the vehicle additionally comprises a second compound which is a polymer of Formula 2:



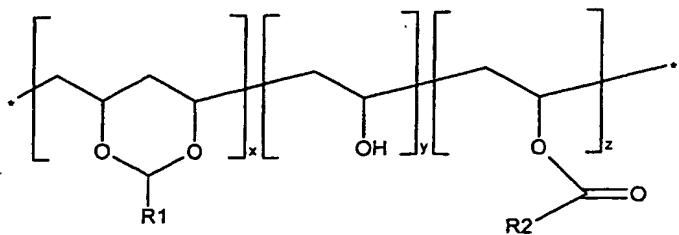
wherein D is a vinyl pyrrolidone group and E is a vinyl acetate group and wherein $0 < m < 1$
and $n+m=1$.

20 3. A composition as claimed in claim 2, wherein the proportion of said second compound is up to 80% by weight of the coating composition.

4. A composition as claimed in claim 2 or 3, wherein n is from 0.3 to 0.7 and m is from 0.3 to 0.7.

25 5. A composition as claimed in any of claims 2 to 4, wherein said second compound is poly(vinyl pyrrolidone-co-vinyl acetate) with an average Mw of 50,000.

6. A composition as claimed in any preceding claim, wherein $[A]_x—[B]_y—[C]_z$ is a
30 compound of Formula 1A:



wherein R1 and R2 are independently H or an alkyl, alkenyl, alkynyl or aryl group and wherein optionally an alkyl, alkenyl, alkynyl or aryl group may be substituted for any pendent hydrogen atom.

7. A composition as claimed in claim 6, wherein x is from 0.8 to 0.9, y is from 0.1 to 0.2 and z is from 0 to 0.025.

10 8. A composition as claimed in claim 6 or 7, wherein said first compound is poly(vinylbutyral-co-vinyl alcohol-co-vinyl acetate) with an average Mw from 50,000 to 80,000 and with 88 wt% vinyl butyral groups.

15 9. A composition as claimed in any preceding claim, wherein the bioactive is dexamethasone, rapamycin or 17 β -Estradiol.

10. A composition as claimed in any preceding claim, wherein the proportion of bioactive to vehicle is from 1:9 to 1:1.

20 11. A method for coating a medical device comprising the step of:

(a) applying to at least a part of the device a first coating composition as claimed in any of claims 1 to 11.

25 12. A method as claimed in claim 11 additionally comprising the step of:

(b) applying a second coating composition as claimed in any of claims 1 to 10

wherein said first and said second coating composition are the same or different.

13. A method as claimed in claim 12, wherein the first coating has a vehicle comprising
5 said first compound and said second compound in a ratio from 80:20 to 100:0 and wherein
the second coating has a vehicle comprising said first compound and said second
compound in a ratio from 70:30 to 94:6.

14. A method as claimed in claim 12, wherein the ratio of said first compound to said
10 second compound is 98:2 in the first coating and 90:10 in the second.

15. A method as claimed in any of claims 12 to 14, wherein the first coating composition
includes rapamycin and the second coating composition includes dexamethasone.

16. A medical device having a first coating of a composition as claimed in any of claims
1 to 10, wherein the first coating is applied directly to the device.

17. A device as claimed in claim 16 having a second coating (which is the same as or
different to the first coating) as claimed in any of claims 1 to 10, wherein the second
20 coating is applied to at least a part of the first coating.

18. A device as claimed in claim 17 wherein the first coating has a vehicle comprising
said first compound and said second compound in a ratio from 80:20 to 100:0 and wherein
the second coating has a vehicle comprising said first compound and said second
25 compound in a ratio from 70:30 to 94:6.

19. A device as claimed in claim 18, wherein the ratio of said first compound to said
second compound is 98:2 in the first coating and 90:10 in the second.

20. A device as claimed in any of claims 17 to 19, wherein the first coating composition
30 includes rapamycin and the second coating composition includes dexamethasone.

21. A device as claimed in any of claims 16 to 20 which is a stent or graft-stent.

22. A method of using a device as claimed in any of claims 16 to 21 comprising implanting the device in an animal or human body.

23. A vehicle for carrying a bioactive, wherein the vehicle is as defined in any of claims 1 to 8.